

## 2.15 CUMULATIVE IMPACTS

### Regulatory Setting

The Council on Environmental Quality's NEPA provisions define a cumulative impact as follows:

Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time (40 CFR Section 1508.7).

The Council on Environmental Quality also provides the following considerations when evaluating cumulative effects:

- Additive, countervailing, and synergistic effects;
- Looking beyond the list of actions; and
- The sustainability of resources, ecosystem and human communities.<sup>1</sup>

CEQA, on the other hand, offers a more concrete definition of cumulative impacts. According to the State CEQA Guidelines:

Cumulative impacts refers to two or more individual effects, which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (Section 15355).

This section of the report addresses CEQA/NEPA cumulative analysis associated with the proposed project/action (hereafter referred to as "proposed project"). The analysis focuses on the project area.

### Projects in the Vicinity of the Proposed Project

#### Transportation Projects in the Vicinity of the Proposed Project

**I80/680/SR12 Interchange Project** - This project would increase the capacity of the I80/680/SR12 interchange complex. Another component of this project is relocating the Cordelia Truck Scales. The Cordelia Truck Scales have been identified as a significant cause of traffic problems in the I-80/I-680/SR12 Interchange because they are located in one of the most congested segments of I-80. The merging trucks cause significant traffic

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<sup>1</sup> Considering Cumulative effects under the National Environmental Policy Act, Council of Environmental Policy, June 1997.

congestion. A technical study has been conducted to identify alternative locations for the truck scales.

**SR12 West /Jameson Canyon Project** - This project would convert SR12 (Jameson Canyon Highway) from a two-lane highway to a four-lane highway between I-80 and State Route 29.

**SR12 West Truck Climbing Lane Project**- This project would construct a truck climbing lane in the westbound direction on SR12 (West) from I-80 to west of Red Top Road. The project would reduce congestion on SR12 (West) and the I-80/SR12 (West) interchange by providing an additional lane for slow moving trucks, thereby allowing automobiles to pass.

**Green Valley Road I-80 Interchange** -This project would develop improvements at the Green Valley I-80 Interchange to create a more efficient north-south roadway network to accommodate project traffic volumes. These improvements would include a new I-80 eastbound off-ramp north of I-80. a new bicycle and pedestrian overcrossing adjacent to the existing bridge, and expanded lanes at the Business Center Drive/ Green Valley Road intersection.

#### **Residential Projects in the Vicinity of the Proposed Project**

Currently, there are 11 proposed or approved residential projects within the immediate vicinity of the North Connector.

Combined, these residential projects represent a total of 1,514 additional units within the City of Fairfield. These are just some of the many developments that are currently proposed, underway, or have recently been constructed in the vicinity of the study area.

#### **Other Projects in the Vicinity of the Proposed Project**

##### **Business and Industrial Parks (at various stages of build-out)**

*Garaventa Properties/Fairfield Corporate Commons*

Location: Suisun Valley Road, between Dan Wilson and Suisun Creeks

Size: 27.9 acres

Available Land: 79.2 acres

General Plan designation: Residential and Office Space

*Busch Corporate Plaza*

Location: Convergence of Interstate 80 and Highway 12.

Size: 250 acres

Available land: 141 acres

General Plan designation: Limited Industrial

*Solano Business Park*

Location: Between Chadbourne Road and Beck Avenue along Highway 12.

Size: 220 acres

Available land: 57 acres

General Plan designation: Business and Industrial Park

*Fairfield Corporate Commons*

Location: Suisun Valley Road, adjacent to Solano Community College and bounded by Interstate 80 to the south.

Size: 79.2 acres

Available Land: 47 acres

General Plan designation: Residential and Office Space

#### *Green Valley Corporate Park*

Location: North Cordelia area of Fairfield, at the intersection of Interstate 80, Interstate 680 and Highway 12, between Green Valley and Suisun Valley Road.

Size: 122 acres

Available land: 100 acres

General Plan designation: Business and Industrial Park

#### *Green Valley Office Park*

Location: North Cordelia area in Fairfield at the intersection of Interstate 80, Intersection 680 and Highway 12 on Business Center Drive west of Green Valley Road.

Size: 29 acres

Available land: 17 acres

General Plan designation: Highway and Regional Commercial

#### *Fairfield Business Center Park*

Location: Intersection of Interstate 80 and Highway 12 in the south Cordelia part of Fairfield between Lopez Road and Red Top Road.

Size: 155 acres

Available land: 130 acres

General Plan designation: Business and Industrial Park and Limited Industrial

### **Commercial Developments (Permit issued)**

#### *Pet Club*

Location: Business Center Drive west of Green Valley Road.

Size: 19,200 square feet

General Plan designation: Commercial

### **General Plan Build-out and Growth Policies**

The City of Fairfield's 1992 General Plan projected that the city's population would grow from 96,000 as of January 1, 2000 to approximately 160,000 when all vacant buildable land was developed. In March 10, 2002, the City Council approved a comprehensive amendment to the City's General Plan. The amendments were based on the "Livable Cities" concept to create more efficient, compact land use growth patterns, limit annexations, preserve agricultural resources and open space, and discourage development in unincorporated areas.

To achieve these objectives, Rockville Park would no longer be planned for annexation, and density increases are planned for in and around downtown Fairfield, the Mission Village Shopping Center, and the north side of Dickson Road. The City has designated seven sites in western Fairfield, Green Valley, and the edges of Suisun Valley, two of which are in the project area. One of these sites, known as the "Tobin Site" is located near Option C1 Creek at the end of Kaiser Drive, east of Dan Wilson Creek. The City redesignated this ±47-acre site from "Business and Industrial Park" to "Mixed Use." The other site, the Suisun Valley Road Site, is located north of West America Drive and west

of Suisun Valley Road; For the Suisun Valley Road site, the City redesignated an approximately 12.5-acre area from Office Commercial to Residential, Medium Density (8-15 units per acre).

Under the amended General Plan, build-out of Fairfield would result in a population of approximately 135,000 (see Table 2.14-2). Projection of housing and population growth were developed using the database of vacant buildable land.

**Table 2.14-2 Housing, Population at City Buildout**

	<b>Housing</b>	<b>Population</b>
<b>January 1, 2001</b>		
Cordelia	3,140	9,320
Remainder of City	<u>29,260</u>	<u>89,480</u>
Subtotal	<b>32,400</b>	<b>98,800</b>
<b>Projected Additions</b>		
Cordelia	4,600	12,550
Remainder of City	<u>9,200</u>	<u>24,810</u>
Subtotal	<b>13,800</b>	<b>37,360</b>
<b>Projected Buildout Totals</b>		
Cordelia	7,740	21,870
Remainder of City	38,460	114,290
<b>Citywide Buildout Totals</b>	<b>46,500</b>	<b>136,160</b>

Source: Draft Program EIR for the Comprehensive Amendment to the City of Fairfield General Plan, August 2001

The effect of these policies and plans, in context with the development of the project and present and future projects, suggests that the City will continue to rezone sites and increase densities to accommodate build-out projections.

## **Assessment of Cumulative Impacts**

### **Land Use and Planning**

The project and other past, present and future projects in the area will continue to convert agricultural and vacant land to roadways, commercial, industrial and residential land uses. However, these changes are planned for and envisioned in the General Plans of both the County and City of Fairfield as well as the long range transportation plans of the County, the Metropolitan Transportation Commission and the State.

The proposed project would be designed to be compatible with proposed land uses and zoning designations. For example, in areas zoned for agricultural uses (primarily within Solano County) the new roadway would be designed with limited connections to adjacent properties (i.e. direct access would only be allowed to replace access that would be severed by the new roadway). In those areas, the roadway would also be designed with a solid median to preclude the creation of full access intersections which would be necessary to accommodate any development beyond the existing and planned agricultural uses. These design elements would ensure that the proposed roadway

would not induce growth or cumulative land use effects beyond those already envisioned and planned for in the City of Fairfield and County of Solano General Plans.

### **Agricultural Resources**

The agricultural resources assessment discussed in Chapter 2 contains information about prime farmland and farmland of statewide importance in the City of Fairfield and Solano County. Near the project area most of the farmland is located within Green Valley and Suisun Valley area of Fairfield and Solano County.

The project, in conjunction with other projects in the area, will continue the trend of converting farmland to non-agricultural uses which is considered a significant cumulative impact. In response to this trend the County of Solano and City of Fairfield have established specific policies to reduce the rate of farmland conversion. The Solano County Agricultural Easement Plan protects agricultural resources through conservation easements and for the retention of parcels as a farmable unit, and the City of Fairfield has adopted policies and programs intended to protect the agricultural lands around Fairfield from development pressures. Also, see discussion above under land use regarding design elements to be incorporated into the project to reduce the potential for agricultural conversion beyond what is envisioned and planned for in the Solano County General Plan.

### **Hazardous and Toxic Substances/Earth Resources**

The project in combination with other projects in the area could result in the spread or release of hazardous materials which could affect construction workers, and possibly nearby residents. This potential effect would be mitigated through studies required under CEQA and other regulatory agencies and implementation of standard mitigation measures including cleanup requirements for individual projects that may encounter contaminated soil or groundwater.

The proposed project in combination with other roadway improvements and development in the area would contribute to increased pollutants in stormwater runoff that if not mitigated could adversely affect local and regional surface water quality. However, this potential affect would be mitigated by implementing standard water quality mitigation measures during construction and operation of these projects as required by the Regional Water Quality Control Board.

Proposed development in the City of Fairfield area could result in significant cumulative impacts relating to earth resources, including:

- Potential for strong seismic ground shaking in the area;
- Moderate to very high potential for liquefaction;
- Potential for landslides;
- Expansive soils on slopes prone to creep;
- Moderately to highly expansive alignment materials generated as fill within the project area;
- Potential for construction on slopes steeper than 6:1 in the West End;
- Potential for undocumented fills within the proposed alignments for the project;
- Potential for differential settlement resulting from differential fill thicknesses across the construction area, especially existing steep hill slopes;
- Potential for shallow water depths in the vicinity of Suisun Creek in the East End.

The proposed project would conform to Caltrans and Uniform Building Code standards and specifications relating to earthwork, groundshaking, and structural integrity. In addition, specific mitigations were included in Chapter 2 of this report to reduce these impacts to a less than significant level.

### **Visual and Aesthetics Quality**

The project area and surroundings include many valuable scenic elements including mountains, agricultural areas, and the Suisun Marsh. The project and other past, present and future projects would continue to reinforce the suburban aesthetic of the Cordelia and Fairfield area and continue to encroach upon the scenic elements in the project area and surroundings. The County and City General Plans however, contain specific policies and programs to protect the most valuable of these scenic resources. As discussed in Section 2.5, the proposed project would have limited visual effects and mitigation measures.

The Agriculture and Open Space Land Use Chapter of the Solano County Land Use and Circulation Element (amended through June 2003) contains policies that assist communities in maintaining their identities by retaining existing visual corridors and establishing community buffers while also maintaining visual corridors within the county. The Scenic Roadway Element of the Solano County General Plan includes SR12 as a County-designated Scenic Roadway from the Solano County line to I-80. The Scenic Roadway Element contains specific policies related to the protection of rolling grasslands and minimization of grading activities.

The City of Fairfield also has several policies that address protecting scenic resources. The Scenic Vistas and Roadways Plan (SVRP) and the Tree Preservation Ordinance identify objectives and policies for maintaining visual resources within the City of Fairfield. The SVRP was directed by the City of Fairfield's General Plan to specifically identify important scenic vistas and roadways. The Tree Preservation Ordinance makes it unlawful to unnecessarily destroy or remove trees and encourages the replacement of trees lost to disease, natural hazards, or human intervention.

The City of Fairfield General Plan's Open Space, Land Use, and Urban Design Elements also provide clear direction for the preservation of scenic resources.

In addition, specific projects are evaluated under CEQA to determine if they would result in additional visual and aesthetic effects, and include mitigation if appropriate to reduce or avoid these impacts. Mitigation measures could be similar to those contained in Chapter III such as slope rounding, contour grading, design enhancements and landscaping to retain views of the hills and grasslands.

### **Historic and Cultural Resources**

Two previously recorded historic cultural resources are within or abutting the archaeological APE. These properties include: the Ferrari Ranch/Red Top Stables (P-48-000487); and the Southern Pacific Railroad (P-48-000549). Neither historic site will be impacted by project construction. One prehistoric archaeological site (CA-SOL-242) was mapped on the Northwest Information Center base map as adjacent to the project riparian mitigation area along Green Valley Creek. The site was not relocated during



subsequent investigation of the area. In total, fifteen recorded prehistoric sites exist within a 1-mile radius of the project area. All of the sites are outside the APE.

No evidence of buried prehistoric or historic cultural resources was encountered during the subsurface testing efforts, conducted along Suisun Creek, Red Top Road and the central portion of the project area. Only minor changes in soil type, color and depth were observed within the individual test units. Although no prehistoric cultural resources were observed during the focused pedestrian survey conducted on May 1 and 12, and June 4, 2003, sites and objects may yet exist in the project area, but may be obscured by vegetation or buried by fill or natural sediments.

Because of the proximity of Dan Wilson and Suisun Creeks, it was anticipated that some buried cultural deposits might exist within the project area. The negative trenching results reduce the likelihood that such prehistoric deposits exist. However, testing represents a minute sample of the total area. The possibility remains that dispersed burials, non-burial prehistoric features, or small historic features could exist on the project parcels where test excavations were not conducted.

Mitigation measures will be addressed in the Finding of Effect Document and the Post Review Discovery Plan after SHPO concurrence on the HPSR, ASR and HRER.

### **Air Quality**

The air quality analysis discussed in Chapter 2.10 is based on future traffic conditions in the year 2020 which accounts for development in the project area and region as envisioned in local General Plans, ABAG Projections, and the roadway improvements listed above. As a result the analysis contained in Chapter 2.10 constitutes the cumulative analysis for the project.

The project is listed in the conforming Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP), and the design concept and scope proposed are substantially the same as the design concept and scope in the RTP and TIP listings. Therefore, the project meets the regional tests for carbon monoxide and particulate matter (PM<sub>10</sub>) conformity with the State Implementation Plan (SIP).

Temporary construction impacts of the proposed project in combination with other roadway and development projects in the project area could result in cumulative dust and construction-equipment emissions if construction activities were to occur simultaneously. However, mitigation measures would be implemented with each project to minimize construction-period air quality impacts. These measures include the application of water or dust palliatives during construction and limitations of the operation and maintenance of construction equipment.

### **Community Impacts**

There would be one business displaced as a result of the proposed project. Under Public Law 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, displaced businesses must receive fair and humane treatment and shall not suffer unnecessarily as a result of a project designed for the benefit of the public. Adherence to the Uniform Relocation Assistance and Real Property Acquisition Policies Act would avoid any potential cumulative effect.

## **Biological Resources**

The proposed residential development projects in the area would result in the conversion of open space lands to developed land, contributing to the loss of non-native grasslands, ruderal habitats, wetland habitats, and agricultural land in the region. There would be a concomitant loss of common plant and animal species, and a cumulative loss of habitat for common special-status species.

Development of the proposed project may contribute to the fragmentation of habitats that are necessary for the survival of special-status species in the area, or potentially result in the isolation of special-status species populations. Special-status species that could be affected by the proposed project and other development projects in the area include: valley elderberry longhorn beetle, Callippe silverspot butterfly, California red-legged frog, western pond turtle, chinook, steelhead, Cooper's hawk, golden eagle, grasshopper sparrow, short-eared owl, western burrowing owl, white-tailed kite, northern harrier, loggerhead shrike, pallid bat, and Yuma myotis bat.

Construction of the proposed project would also result in impacts to "waters of the United States." This could result in further loss of habitat utilized by the special-status species listed above. On a regional basis, these impacts would add to other development-related losses of "wetlands" and "other waters." Permitting requirements for the proposed project and other development projects in the area should ensure that appropriate compensatory mitigation is implemented.

Finally, the proposed project and other development projects in the area would significantly increase the number of local residents living in the area, which would further increase development pressures on local resources and would likely result in further losses of habitats used by common plants and wildlife. In addition, the increased traffic in the area resulting from the proposed project would likely increase animal mortality from vehicle collisions.

## **Hydrology and Water Quality**

The proposed project, in conjunction with other projects, would contribute to an increase in impervious surfaces in the project area, which would result in an increase in stormwater runoff. Existing drainage culverts may not be able to accommodate this additional runoff.<sup>2</sup> The size and location of the flood plain associated with local creeks (Jameson, Green Valley, Dan Wilson, and Suisun Creeks) may change if drainage mitigations are not made. The increase in impervious surface over time could also increase the frequency of flooding. Each project will be required under CEQA to evaluate specific impacts on local hydrology and floodings. Mitigation would be incorporated into each project where feasible. For example, Sections 2.7 and 2.8 describe mitigation measures to accommodate the increased stormwater runoff that would be generated by the new impervious surfaces created by the proposed project. In addition, Caltrans, STA, County and City of Fairfield are working toward a regional solution to flooding problems along the Suisun Creek watershed that may include a detention/retention basin upstream of I-80.

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<sup>2</sup> The Flooding Study for Suisun Creek at Interstate 80, WRECO, July 2003



## **Noise**

Cumulative noise level increases would occur at receivers in the vicinity of the project area primarily as a result of future noise level increases along Interstate 80 and with the addition of the project. The proposed widening of I-80 and improvements made to the interchanges with Interstate 680 and West Texas Street would facilitate increased vehicular traffic along the I-80 corridor. Anticipated traffic forecasts along I-80 would generate an increase in noise levels of about 2 decibels over existing conditions. With the addition of the proposed project to the future noise level increases expected from Interstate 80, cumulative noise levels could increase by three decibels at some receiver locations.

Receivers in the West End and Central Sections of the project area would be exposed to increases in noise levels as a result of increased traffic along the I-80 corridor and the proposed project. Receivers dominated by I-80 noise, either located in close proximity to I-80 and away from the proposed project (e.g., APN 0027-350-010 in the central section), or in areas away from I-80 and the North Connector such that I-80 continues to be the dominant noise source (e.g., receivers along Venus Drive in the west section), could benefit from noise barriers that may be identified as part of the I80/680/SR12 Interchange Project. However, the feasibility or reasonableness of such barriers would need to be evaluated during the design of the I-80 widening project.

## **Public Services/ Utilities**

The proposed project in combination with other roadway projects in the area could result in additional utility relocations. However, these relocations would not result in a significant adverse effect because utility service would generally be provided continuously to local businesses and residents. The proposed project and other roadway improvements in the area should result in a beneficial cumulative effect on the provision of police, fire, and emergency services by relieving traffic congestion and providing alternative routes, thereby reducing service response time when compared to future conditions without these projects.

Continued development in the project area as envisioned by the County and City General Plans would create additional demand for local utility and emergency services. The development review process in both the County and City requires that prior to development approval, adequate utility service is provided to each project. In addition, each project is reviewed by emergency service providers to ensure that adequate services can be provided, and if not, appropriate mitigation would be required.

## **Traffic and Transportation/ Bicycle Facilities**

The traffic volume forecasts, discussed in Section 2.4, were generated using the Napa Solano County travel forecasting model as run by the City of Fairfield for estimating future traffic volumes and determining impacts on parallel and adjacent facilities for the year 2020 and 2030. Traffic volumes on regional roadways and turning movements at the key intersections are analyzed for the AM and PM peak hours, based on data from this travel forecasting model. As a result, the analysis of traffic and transportation impacts characterized in Section 2.4 accounts for cumulative projects and development that could affect the study area.

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